

## THE DETERMINATION OF THE FOOD OF NESTLING BIRDS.

BY ALVIN R. CAHN.

I note with interest the discussion regarding the relative value of field observations and laboratory examinations in the determination of the food of nestling birds, and beg leave as an "outsider" to say a word on the subject, and to offer a suggestion. The controversy, in a word, seems to be: Are field observations of the food of nestling birds of any



HOUSE WREN WITH FOOD FOR YOUNG.

PHOTO BY A. R. CAHN

value as compared with the laboratory examination of stomach contents?<sup>1</sup> My answer to this question would be that

<sup>1</sup>W. L. M., *Auk* XXXI, July, 1914, pp. 420-421 vs. T. C. Stephens, *Wilson Bul.*, XXIV, Sept., 1914, pp. 157-161.

each method serves its own end, and that neither can to any extent supplant the other; that there are at least *two* big problems in connection with the food of birds: the determination of the specific food, and the amount of food eaten, and each problem demands a different method of solution.

Laboratory examination of the stomach contents yields at best a list of specific material which chanced to be in the process of digestion at the time the fledgeling was killed—a list of species which, as W. L. M. states, requires an accomplished entomologist to compile. Given the tarsus of a beetle, it would indeed require an expert systematic entomologist to place that appendage in the proper family, genus and species to which its owner belonged. And with the very many species of beetles which abound in nearly every habitat, it would probably require a specialist in Coleoptera to perform the task to the satisfaction of the exacting scientific world. In a similar way it would require a specialist in Lepidoptera to ascertain with any degree of certainty the species of moth or butterfly to which a head, a particle of wing, or an isolated leg belonged. The great advantage of stomach examinations is the determination of *specific* animals eaten, and unless this is exact, the value of the method as a means of determining the food of the bird is minimized.

Field observations, on the other hand, should yield data on the amount rather than on the species eaten. It is no difficult matter to watch the feeding of nestlings, whether the neighboring warbler and sparrow, or the hawk nesting on the face of a perpendicular cliff. I have sat in a blind four feet from the nest of a Redstart and have watched the actions of the young and parents; I have removed the Song Sparrows from the nest and had the parents feed them, perched on my finger, within less than a foot of my eyes; I have sat above the nest of the Duck Hawk and watched the daily life of the birds through powerful binoculars, and identified the birds that were brought in for the young. In every case I feel sure that I could have gathered much data on the amount of food administered to the youngsters had I given my attention to that phase of the subject. I think, also, that I



BLUEBIRDS WITH FOOD.

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could have determined many of the more familiar insects with some certainty, though not with that degree of certainty an expert entomologist would were he examining the remains under a microscope. As it was, my attention was given to photographing the home life of the birds, and particularly of the parents, which brings me to the suggestion I would offer.

As long as we admit that field observations are not carried on with the idea of determining the specific food, I would suggest the use of the camera as an amount determinant,—



ROBIN FEEDING WITH FOOD MASSES IN THE BILL.

PHOTO BY A. R. CAHN

not that I would leave it to the camera to determine the amount of food administered; I would use the camera as a check upon the observations made. There are few of our common birds that will not eventually become reconciled to the presence of a camera either artfully concealed or without any attempt at concealment placed three or four feet from the nestlings. If the birds object to the presence of the observ-

er, the undesirable party may withdraw, and operate the camera by means of a thread, watching the birds through a field glass, and taking the picture at the psychological moment. Why not let the cyclopic eye of the camera verify the observations on the amount of food given the young? I admit that I have not tried this out, but I find in looking over my negatives that I have quite a number of photographs showing the parent with a definite amount of food in the bill, and I think that possibly very definite results might be obtained after a little experience, if the object were kept in mind. To illustrate my point I offer the photographs accompanying this note. Whether these will show as clearly in print as they do on lantern slides is very doubtful indeed, but the slides, when projected on a screen, show the food in great detail, so that it may be roughly identified.

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## A FLIGHT OF SHORE-BIRDS NEAR YOUNGSTOWN, OHIO.

BY JOHN P. YOUNG.

Near North Lima, Mahoning County, Ohio, there is a reservoir of about 400 acres area, made by damming the outlet of an old tamarack swamp. Many water birds stop at this lake in the migrations, and this article is written to tell of a heavy migration of shore-birds which occurred on August 10 and 11, 1914.

Our first visit to the lake after the return of the shore-birds was on July 27th, when we found Pectoral, Least, Semipalmated and Solitary Sandpipers, Wilson's Snipe, Great Blue Heron and Black Tern. On August 3, in addition to the above, we found the Semipalmated Plover, Yellow-legs, and Dowitcher.

On August 10 and 11 there were many shore-birds of the common kinds, and in addition we saw 4 Western Willets, 4 Dowitchers, one Western Sandpiper, one White-rumped Sandpiper, one Greater Yellow-legs, 2 Red-backed Sandpipers, also the Common Tern. On these days there were